

ABSTRACT

[0038] A heater assembly is described for mounting around a fluid flow channel in an injection molding apparatus. In one version, the heater assembly comprises: an inner tube made of a first heat conductive material having a first coefficient of thermal expansion, the inner tube having a selected longitudinal length, an inner surface, an outer surface; and a first ring having an inner surface engaged around the outer surface of the inner tube along a short selected length of the longitudinal length of the inner tube. The ring comprises a second material having a second coefficient of thermal expansion that is less than the first coefficient of thermal expansion. The assembly also has a heater mechanism that heats the inner tube to a selected elevated temperature. Alternatively, the ring can be made from a shape memory alloy that causes the ring to reduce in diameter when the ring is heated above a threshold temperature.